clarion

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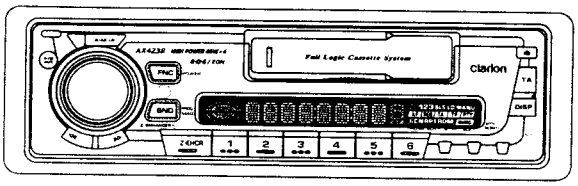
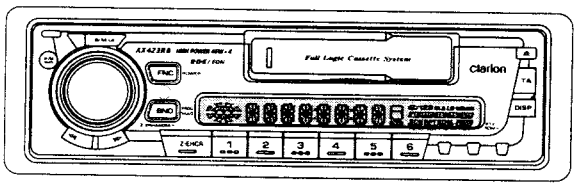
Service Manual



(AX423R)



(AX423RB)

RDS-EON/FM/MW/LWRadio Cassette Combination with CD Changer Control

Model ***AX423R***
(PE-1714E-H)

Model ***AX423RB***
(PE-1714E-I)

■ SPECIFICATIONS

Radio section

Tuning system:	PLL synthesizer tuner
Receiving frequencies:	FM 87.5MHz to 108MHz (0.05MHz steps) MW 531kHz to 1602kHz (9kHz steps) LW 153kHz to 279kHz (3kHz steps)

Tape deck section

Cassette type:	Compact audio cassette
Wow & flutter:	0.08%(WRMS)
Frequency response:	30 to 20kHz(Metal)
Signal to noise ratio:	58dB(Metal)

General

Max. power output:	45W× 4
Power supply voltage:	14V DC(10.8 to 15.6V allowable), negative ground
Power consumption:	Less than 15A
Speaker impedance:	4Ω(4Ω to 8Ω allowable)
Line output:	1.8v (with CD changer 1kHz 10kΩ)
Auto antenna rated current:	0.5A or less
Weight:	1.5kg
Dimensions(mm):	178(W)× 50(H)× 155(D)

※Short-circuiting the power antenna terminal or using a power antenna with a current exceeding the rated current can damage internal circuits. Always use with the rated current.

※Specifications and design are subject to change without notice for further improvement.

■ NOTE

※We cannot supply PWB with component parts in principle. When a circuit on PWB has failure, please repair it by component parts base. Parts which are not mentioned in service manual are not supplied.

■ COMPONENTS

PE-1714E-H/PE-1714E-I

Main unit	————	1
Mounting bracket	300-7742-00	1
DCP case	335-5734-30	1
Escutcheon(OUT-ES)	370-9006-07	1
Parts bag	————	
Removal key	331-2497-00	2
Cable tie	335-0833-07	1
Rubber parts	345-3653-20	1
Screw	716-0726-01	1
A-lead	850-6681-50	1

■ FEATURES

1. RDS-EON Receiver with Controller for CD Changer (6/12 disc)
2. Full Logic Auto Reverse Cassette Deck with Hard Permalloy Head
3. Fully Detachable Control Panel with Multi-Colour LC-Display
4. High Power 4× 45W Max. / 2-Channel RCA Line Level Output

■To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

1. Use specified parts.
   The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.
   The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.
2. Place the parts and wiring back in their original positions after replacement or re-wiring.
   For proper circuit construction, use of insulationtubes, bonding, gaps to PWB, etc. is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.
   If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.
3. Check for safety after repair.
   Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary ploblems around the repaired spots.
   If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
4. Caution in removal and making wiring connection to the parts for the automobile.
   Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
5. Cautions regarding chips.
   Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc). The negative pole of tantalum capacitors is highly susceptible to heat, so use special care when replacing them and check the operation afterwards.
6. Cautions in handing flexible PWB
   Before working with a soldering iron, make sure that the iron tip temperature is around 270℃. Take care not to apply the iron tip repeatedly (more than three times) to the same patterns. Also take care not to apply the tip with force.
7. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

■NOTES OF ISO CONNECTOR

1. For VW and Audi vehicles, change the position of fuse installation as shown on the diagram. (Figure 1)

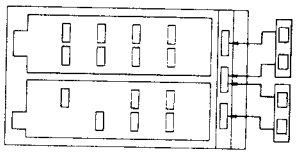
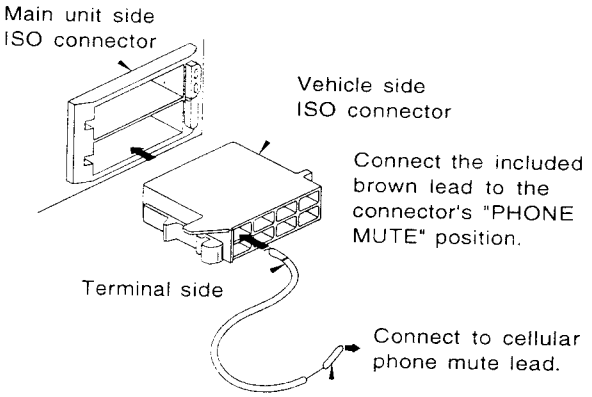


Figure 1

2. The lead include with the unit must be connected to the specified position of the vehicle's ISO connector in order to use the "triggered audio mute for cellular telephones" function. (Figure 2)

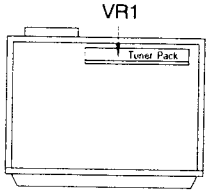

Main unit side ISO connector
Vehicle side ISO connector
Connect the included brown lead to the connector's "PHONE MUTE" position.
Terminal side
Connect to cellular phone mute lead.

Fasten using insulating tape, etc., to prevent short-circuits at the connection.

Figure 2

■ADJUSTMENTS

Item	Procedure	Measuring instrument
S-meter	1. Input the 98.1MHz/30dB μ (400Hz-MOD 30%)signal. 2. Turn on the power switch. And press the AF button and CH6 button at the same time.(TEST MODE) 3. Adjust the reading of LCD indicator to [30----00] (3.0V± 0.2V)by VR1.	SG



Top side of main unit

■ TROUBLESHOOTING

Problem	Cause	Measure
Power does not turn on. (or no sound is produced.)	Fuse is blown.	Replace with a fuse of the same amperage as the old fuse.
	Connections are improper.	Read the attached "Installation/Wire Connection Guide" once again and wire properly.
Sound quality is poor.	Playback head is dirty.	Use a cleaning tape, etc. to clean the head.
No sound while unit can be operated.	Power ANT lead is shorted to the ground.	Turn the unit off. first. Remove all connecting wires from the power ANT lead, and turn the unit on, then re-connect a wire one by one to the power ANT lead. When sound is muted again, check the unit with a wire connected last.

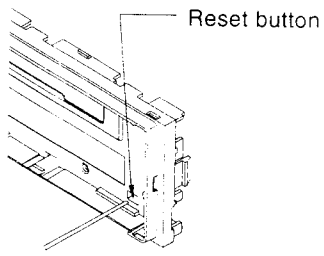
■ ERROR DISPLAYS

This unit is equipped with a number of self-diagnosis functions to protect the system. If a problem should occur, the user is warned through various error displays. Eliminate the problem using the procedures shown below.

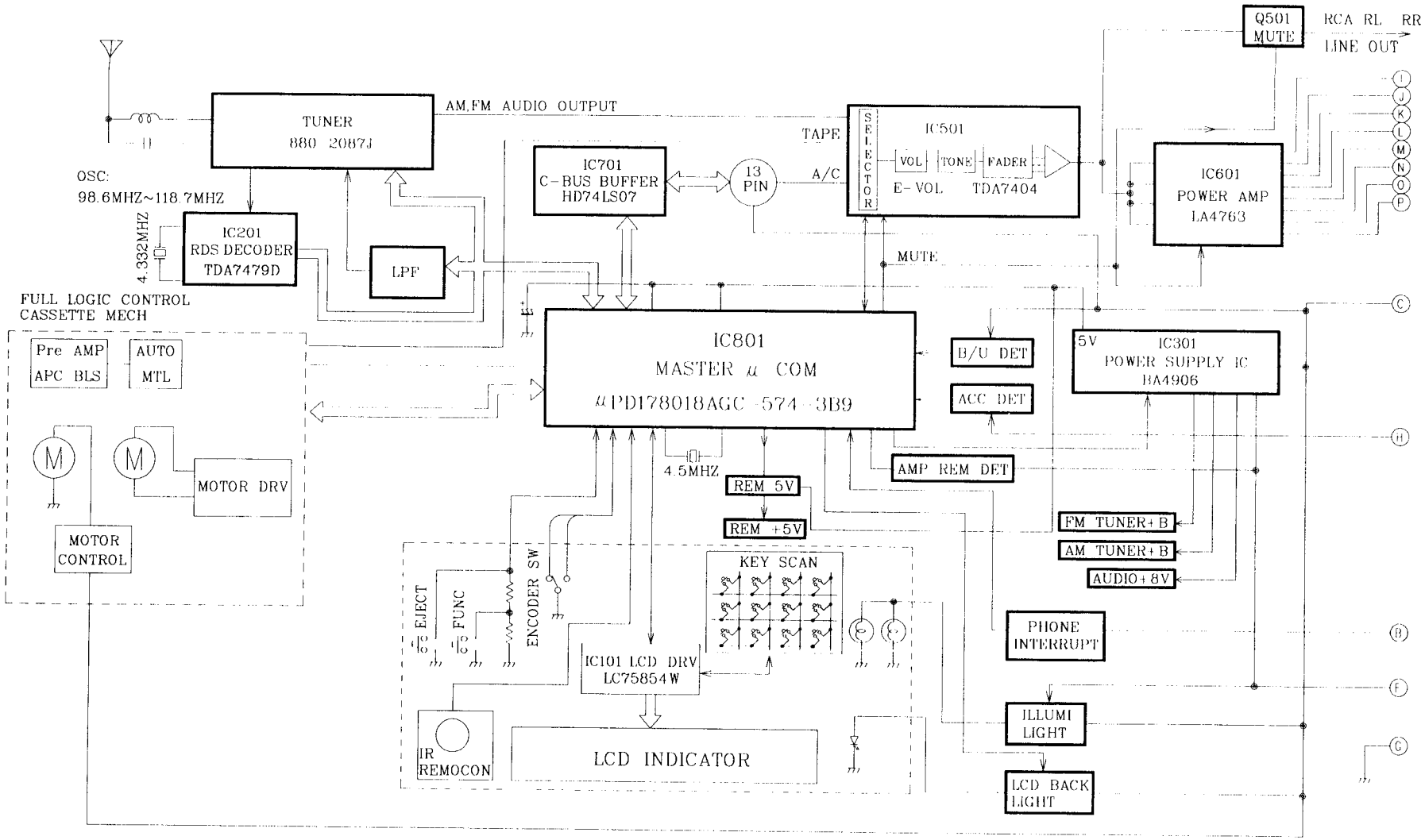
Error Display	Cause	Measure
TAPE ER 1	Tape cannot be played due to defective tape such as cut tape.	Eject the tape then replace it with a new one.
TAPE ER 2	Tape is caught and cannot be played.	Remove the caught or wound tape.
TAPE ER 4	Tape mode cannot be detected.	This is a failure of tape mechanism.
TAPE ER 8	Tape is caught and cannot be ejected.	Eliminate the reason for which the tape is caught.
CDCH ER 2	A CD inside the CD changer is not loaded.	This is a failure of CD changer's mechanism.
CDCH ER 3	A CD inside the CD changer cannot be played due to scratches, etc.	Replace with a non-scratched, non-warped disc.
CDCH ER 6	A CD inside the CD changer cannot be played because it is loaded upside-down.	Eject the disc then reload it properly.

If a display other than one of the displays above appears, press the reset button.

Turn off the power ,then press the **RELEASE** button and remove the DCP.
Press the reset button with a thin rod.



■ BLOCK DIAGRAM



NO.	CONNECTION
A	
B	PHONE INT
C	BACK UP
D	
E	
F	REM
G	GROUND
H	ACC
I	RR-
J	RR+
K	FR-
L	FR+
M	FL-
N	FL+
O	RL-
P	RL+

■ EXPLANATION OF IC:

■ μ PD178018AGC-574-3B9 052-1913-10 MASTER MICRO COMPUTER

1.Outward Form : 80 pins QFP
2.Terminal Description

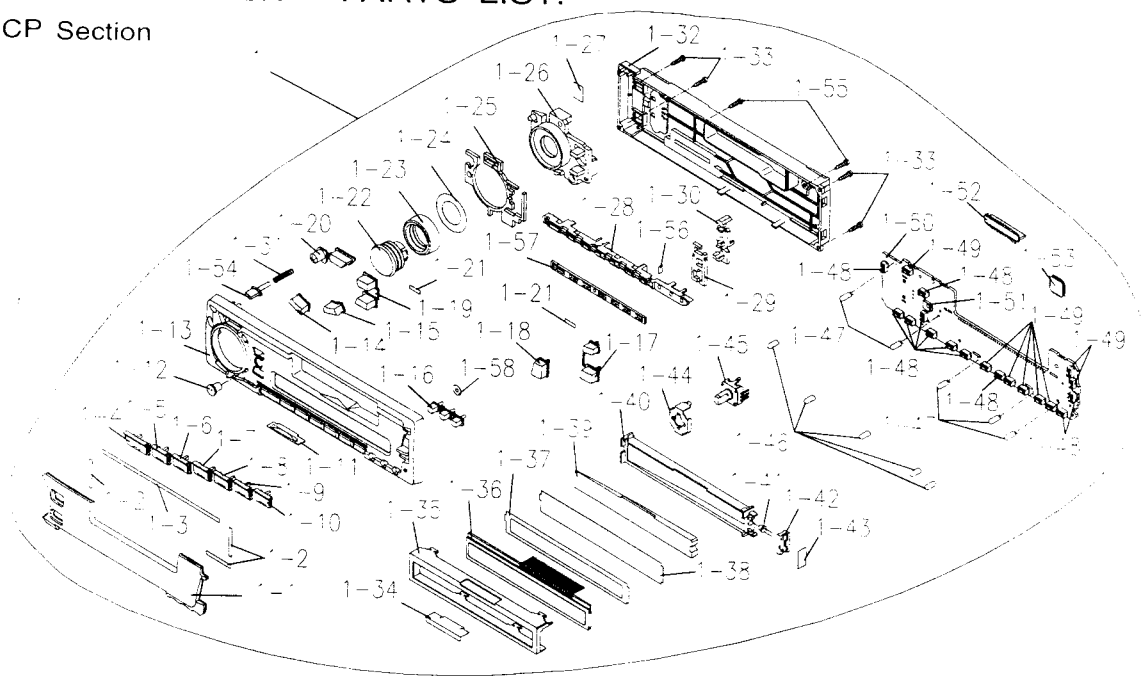
pin 1 : KEY_A/D : I : FUNC/EJECT/DCP detection terminal for A/D converter
pin 2 : RDS S_METER : I : RDS S_METER detection terminal for A/D converter
pin 3 : RDS_NOISE : I : RDS NOISE detection terminal for A/D converter
pin 4 : VOL CW : I : Use for rolling volume
pin 5 : VOL CCW : I : Use for rolling volume
pin 6 : NOISE_DISCHG : O : Noise is off
pin 7 : LCD_SI : I : Serial data communication line to LCD Control IC
pin 8 : LCD_SO : O : Serial data communication line to LCD Control IC
pin 9 : LCD_SCK : O : Serial data communication line to LCD Control IC
pin 10 : LCD_CE : O : Serial data communication line to LCD Control IC
pin 11 : C-BUS SRQ : I : "C-BUS" Serial data communication line
pin 12 : C-BUS_SI : I : "C-BUS" Serial data communication line
pin 13 : C-BUS_SO : O : "C-BUS" Serial data communication line
pin 14 : C-BUS_SCK : O : "C-BUS" Serial data communication line
pin 15 : BLINK_LED : O : Blink the "LED"(Not used)
pin 16 : SYS_MUTE : O : Output mute. While it is "LOW", mute is "ON"
pin 17 : REM - 5 : O : REM 5V power supply control terminal
pin 18 : STAND BY : O : Power supply IC control terminal
pin 19 : E_VOL CLK : O : E-VOL use
pin 20 : E_VOL DATA : O : E-VOL use
pin 21 : GND : — : GND
pin 22 : VDD : — : VDD
pin 23 : MODE1 FM/AM : O : While "HI"=FM and "LO"=AM, power supply is "ON"
pin 24 : MODE2 ANT : O : While "HI"=ANT, power supply is "ON"
pin 25 : MUTE SPEED : O : During RDS follow-up motion, mute speed at "LO"; usually it is at "HI"
pin 26 : IF_REQ : O : During seeking, it is at "HI"; while detecting RDS SD, it is at "LO"
pin 27 : ST : O : Usually input "ST" lights at "LO"; always at "HI" during seeking
pin 28 : AM IF CNT : I : AM IF counter
pin 29 : FM IF CNT : I : FM IF counter
pin 30 : VDD : — : VDD
pin 31 : FM OSC : I : FM VCO input terminal
pin 32 : AM OSC : I : AM VCO input terminal
pin 33 : GND : — : GND
pin 34 : FM_VT : O : FM PLL VT
pin 35 : AM_VT : O : AM PLL VT
pin 36 : NC : — : GND
pin 37 : NC : I : GND
pin 38 : NC : I : GND
pin 39 : SD/ST_IND : I : While AM/FM SD IN/FM ST is "0", "ST" lights
pin 40 : RDS MUTE : O : During RDS follow-up motion, mute is at "HI"; usually it is at "LO"
pin 41 : AM_DX/LO : O : AM DX/LO output terminal, LOCAL is at "HI"
pin 42 : AMP REM_DET : I : While protecting circuit motion, it is at "HI"
pin 43 : SLAVE ON : I : NC
pin 44 : MASTER_ON : O : NC
pin 45 : AUTO_ANT : O : NC
pin 46 : FM_DX/LO : O : FM DX/LO output terminal, LOCAL is at "HI"
pin 47 : M_MOTOR : O : Outputs signal terminal for MECH MOTOR
pin 48 : MECH_ON : O : Outputs mechanism ON signal
pin 49 : PHONE AUDIO : I : GND.
pin 50 : NC : I : GND.
pin 51 : REEL_PULSE : I : Inputs Reel pulse signal input.
pin 52 : NC : I : GND.
pin 53 : STAND_BY_SW : I : STAND BY POSITION SW.
pin 54 : MODE_SW : I : MODE SW
pin 55 : NC : I : GND.
pin 56 : TAPE_IN : I : Tape loading start detection terminal.
pin 57 : APC_SENS (MUTE) : O : Outputs APC sensitiwity switching signal. Outputs LOW in play.
pin 58 : APC_DET : I : Inputs "HI" in playing unnecorded part.
pin 59 : NC : I : GND.
pin 60 : FWD/REV : O : Outputs LOW in FORWARD.
pin 61 : P 2 : O : Outputs for cassette mechanism.
pin 62 : P 1 : O : Outputs motors forward/reverse control.
pin 63 : BNR_B/C : O : NC.
pin 64 : BNR_ON : I : GND.
pin 65 : L/M : O : LW="HI", MW="LO"
pin 66 : RDS DATA : I : RDS data input terminal
pin 67 : RDS CLK : I : RDS clock input terminal
pin 68 : B/U DET : I : B/U detecting terminal
pin 69 : ACC DET : I : ACC detecting terminal
pin 70 : REMOCON : I : Remote control
pin 71 : KEY_INT : I : To 1 pin
pin 72 : NC : I : GND
pin 73 : PHONE_INT : I : Phone interrupted
pin 74 : CPU_REG : — : 0.047 μ F to GND
pin 75 : GND : — : GND
pin 76 : X_OUT : — : X-TAL 4.5MHz
pin 77 : X_IN : — : X-TAL 4.5MHz
pin 78 : OSC_REG : — : 0.047 μ F to GND
pin 79 : VDD : — : VDD
pin 80 : RESET : I : System reset with 22K to 68 pin

CD MECH : LOADING MOTOR CONTROL

PIN No.	NAME	LOADING	EJECT	BREAK	STOP
51	MCW	H	L	H	L
52	MCCW	L	H	H	L

■ EXPLODED VIEW • PARTS LIST:

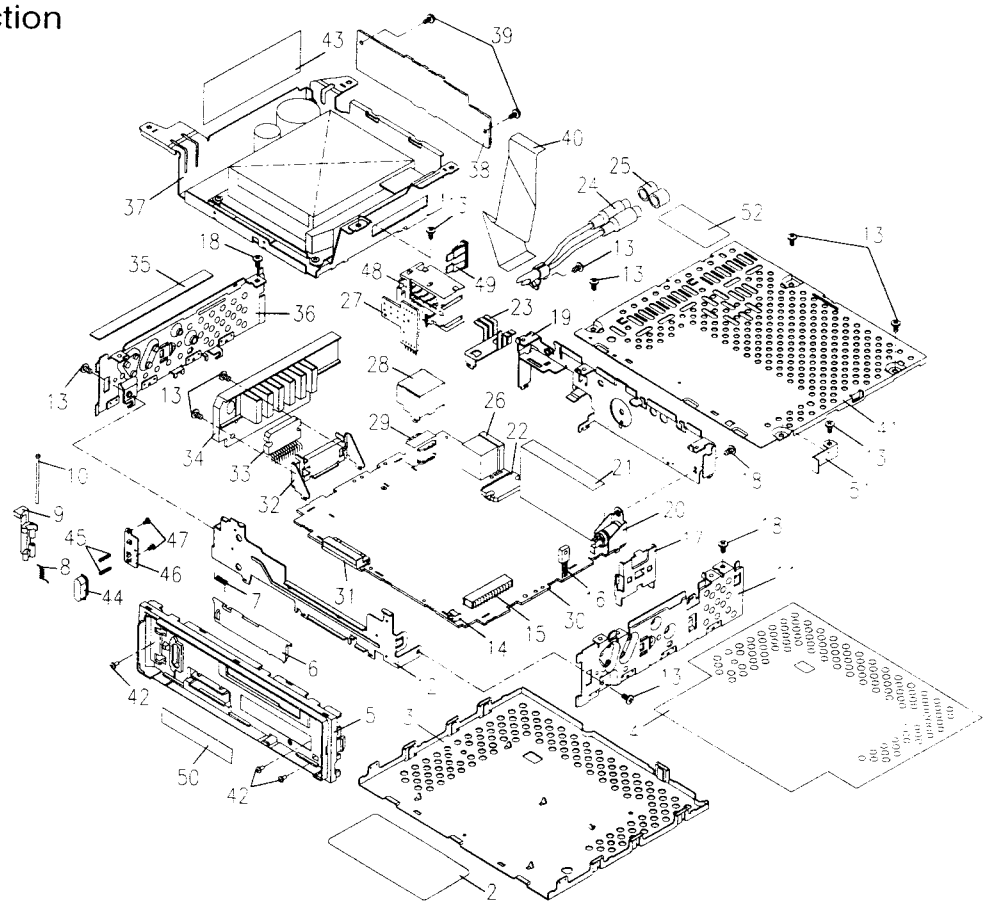
DCP Section



NO.	PARTS NO.	DESCRIPTION	Q'TY
1	DCP-382-700	DCP ASSY(PE-1714E-H)	1
	DCP-383-700	DCP ASSY(PE-1714E-I)	1
1-1	373-0955-09	DIAL-CVR(PE-1714E-H)	1
	373-0955-10	DIAL-CVR(PE-1714E-I)	1
1-2	347-6509-00	DOUBLE FACE	3
1-3	347-6505-00	DOUBLE FACE	1
1-4	382-6129-04	BUTTON	1
1-5	382-6130-04	BUTTON	1
1-6	382-6131-04	BUTTON	1
1-7	382-6132-04	BUTTON	1
1-8	382-6133-04	BUTTON	1
1-9	382-6134-04	BUTTON	1
1-10	382-6135-04	BUTTON	1
1-11	335-5926-00	ILLUMI PLATE	1
1-12	335-5828-00	IR-FILTER	1
1-13	370-5940-09	ESCUTCHEON	1
1-14	382-6127-02	BUTTON	1
1-15	382-6126-02	BUTTON	1
1-16	382-6137-00	BUTTON	1
1-17	382-6125-04	BUTTON	1
1-18	382-6124-04	BUTTON	1
1-19	382-6122-04	BUTTON	1
1-20	382-6128-02	BUTTON	1
1-21	347-6511-00	SHADE	2
1-22	380-5512-04	KNOB	1
1-23	345-8553-00	RUBBER PART	1
1-24	347-6506-00	SHADE	1
1-25	345-8617-00	SPONGE	1
1-26	335-6518-01	ILLUMI PLATE	1
1-27	347-6563-00	SHADE	1
1-28	335-6695-00	ILLUMI PLATE	1
1-29	345-8616-00	SPONGE	1
1-30	335-6516-00	ILLUMI PLATE	1

NO.	PARTS NO.	DESCRIPTION	Q'TY
1-31	750-6699-00	SPRING	1
1-32	335-6201-02	REAR-CVR	1
1-33	778-2006-00	T-SCREW	4
1-34	347-6230-00	SHADE	1
1-35	331-2810-00	LCD-CVR	1
1-36	379-1223-41	LCD(PE-1714E-H)	1
	379-1198-40	LCD(PE-1714E-I)	1
1-37	347-6171-00	SHADE	1
1-38	347-6170-00	FILM	1
1-39	335-6214-00	LCD ILLUMI	1
1-40	335-6210-00	LCD HOLDER	1
1-41	001-7046-00	DIODE(PE-1714E-H)	1
	001-7030-02	DIODE(PE-1714E-I)	1
1-42	335-6216-00	LED HOLDER	1
1-43	347-6510-00	SHADE(LED)	1
1-44	331-3133-00	JOG-SW HOLDER	1
1-45	016-9900-81	VR W/SHAFT	1
1-46	345-4441-37	LAMP CAP(PE-1714E-H)	5
	345-4441-86	LAMP CAP(PE-1714E-I)	5
1-47	017-0444-00	PILOT LAMP(14V 50mA)	5
1-48	013-6305-50	TACT SWITCH	11
1-49	013-6001-50	SWITCH	8
1-50	039-1893-00	SW-PWB (WITHOUT COMPONENT)	1
1-51	060-4008-00	IR-RECEIVER	1
1-52	076-0615-00	PLUG	1
1-53	051-6013-00	IC	1
1-54	382-6139-01	BUTTON	1
1-55	716-1721-00	T-SCREW	2
1-56	347-6564-00	FILM	1
1-57	345-8699-00	SPONGE	1
1-58	347-6653-00	FILM	1

Main Section

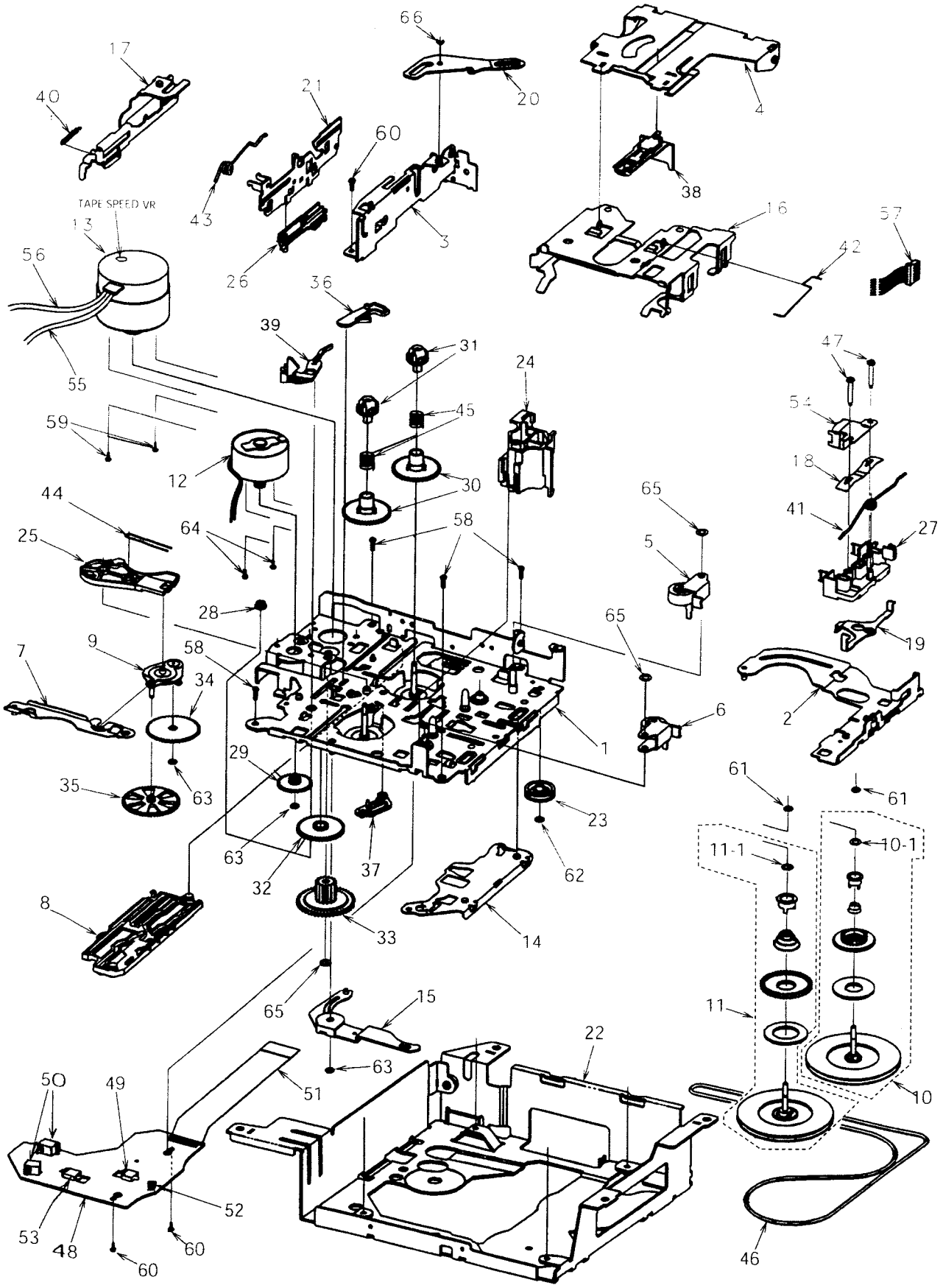


NO.	PARTS NO.	DESCRIPTION	QTY
2	286-9871-00	SETPLATE(PE-1714E-H)	1
	286-9872-00	SETPLATE(PE-1714E-I)	1
3	304-0460-01	LOWER-CVR	1
4	347-5918-00	INSULATOR	1
5	370-5794-03	INNER-ES	1
6	320-0562-01	DUSTPROOF-CVR	1
7	750-3343-01	SPRING	1
8	750-3219-00	SPRING	1
9	335-5915-01	HOOK	1
10	341-1627-00	SHAFT	1
11	305-0275-00	SIDE-CVR	1
12	309-0721-01	FRONT PLATE	1
13	731-3006-80	TAPTIGHT	10
14	013-6100-00	SWITCH	1
15	074-1186-22	OUTLET SOCKET	1
16	103-2012-00	TRANSISTOR	1
17	313-1651-21	HEAT SINK	1
18	714-3006-81	MACHINE SCREW	3
19	307-0627-10	REAR-CVR	1
20	092-4000-51	ANT-RECEPT	1
21	880-2087J	TUNER	1
22	051-3261-00	IC	1
23	313-1772-00	HEAT SINK	1
24	855-5426-52	RCA PIN CORD	1
25	345-3799-20	RUBBER PART	2
26	074-1126-10	OUTLET SOCKET	1
27	039-1400-30	ISO-PWB (WITHOUT COMPONENT)	1

NO.	PARTS NO.	DESCRIPTION	QTY
28	331-2820-00	SHIELD CASE	1
29	009-9006-60	CHOKE	1
30	039-1981-00	MAIN PWB (WITHOUT COMPONENT)	1
31	074-1217-00	OUTLET SOCKET	1
32	331-2255-20	IC-HOLDER	1
33	051-2031-31	IC	1
34	313-1744-20	HEAT SINK	1
35	345-8511-20	RUBBER SHEET	1
36	305-0274-01	SIDE-CVR	1
37	948-0618-01	TAPE-MECH-MODULE	1
38	039-1978-00	MECH-PWB (WITHOUT COMPONENT)	1
39	716-0878-00	IT-SCREW	2
40	816-2478-00	FLAT CABLE	1
41	303-0472-00	UPPER-CVR	1
42	780-2004-01	SCREW	3
43	347-6055-00	FILM	1
44	382-4078-00	BUTTON	1
45	750-3173-00	SPRING	2
46	331-2594-00	HOOK PLATE	1
47	716-0778-00	WAVE SCREW	2
48	074-1285-00	OUTLET SOCKET	1
49	060-0057-57	AUTO-FUSE(15A)	1
50	291-0067-00	STICKER	1
51	331-2744-00	STOPPER	1
52	291-0083-00	STICKER	1

■ EXPLODED VIEW • PARTS LIST:

Tape mechanism section 948-0618-01



NO.	PARTS NO.	DESCRIPTION	Q'TY
1	— — —	MAIN CHASSIS ASSY	1
2	658-0234-01	SLIDE CHASSIS ASSY	1
3	658-0234-02	SIDE BKT ASSY	1
4	658-0234-03	CASSETTE HANGER ASSY	1
5	658-0234-04	ARM ASSY	1
6	658-0234-05	ARM ASSY	1
7	658-0234-06	GEAR BASE LINK	1
8	658-0234-07	MODE RACK	1
9	658-0234-08	GEAR BASE ASSY	1
10	658-0234-09	FLYWHEEL ASSY F	1
10-1	658-0223-63	WASHER (2.1x 4.0)	1
11	658-0234-10	FLYWHEEL ASSY R	1
11-1	658-0223-63	WASHER (2.1x 4.0)	1
12	658-0234-11	SUB MOTOR ASSY	1
13	658-0234-12	MAIN MOTOR ASSY	1
14	658-0234-13	DIRECTION PLATE	1
15	658-0234-14	DIRECTION LINK	1
16	658-0234-15	CASSETTE HOLDER	1
17	658-0234-16	EJECT CAM LIMITER ASSY	1
18	658-0234-17	HEAD SUPPORT SPG	1
19	658-0234-18	PINCH SPG ARM	1
20	658-0234-19	LOAD ARM	1
21	658-0234-20	EJECT CAM PLATE	1
22	658-0234-21	BOTTOM PLATE	1
23	658-0223-21	IDLE PULLEY(A1)	1
24	658-0234-22	CASSETTE GUIDE	1
25	658-0234-23	GEAR BASE ARM	1
26	658-0234-24	LOAD RACK	1
27	658-0234-25	TAPE GUIDE	1
28	658-0234-26	TAPE DETECTOR COLLAR	1
29	658-0234-27	REDUCTION GEAR A	1
30	658-0234-28	REEL SPINDLE	2
31	658-0234-29	REEL DRIVER	2
32	658-0234-30	REDUCTION GEAR B	1
33	658-0234-31	MODE GEAR	1

NO.	PARTS NO.	DESCRIPTION	Q'TY
34	658-0234-32	TAKE UP GEAR	1
35	658-0234-33	REFLECTOR GEAR	1
36	658-0234-34	RACK LINK	1
37	658-0223-32	MODE SW ACTUATER	1
38	658-0234-35	CASSETTE CATCH	1
39	658-0234-36	TAPE DETECTOR	1
40	658-0234-37	EJECT CAM PLATE SPG	1
41	658-0234-38	PINCH ARM SPG	1
42	658-0234-39	HOLDER STABILIZER SPG	1
43	658-0234-40	LOAD RACK	1
44	658-0234-41	GEAR BASE SPG	1
45	658-0234-42	REEL DRIVER SPG	2
46	658-0234-43	BELT	1
47	658-0234-44	AZIMUTH SCREW	2
48	658-0234-45	REEL PWB (WITHOUT COMPONENT)	1
49	658-0234-46	SW (ESE22MH2L)	1
50	658-0234-47	SW (SPPB 64)	2
51	658-0234-48	FLAT CABLE 11P-C	1
52	658-0234-49	PHOTO SENSOR (ON2170-QR FS)	1
53	658-0234-50	SWITCH	1
54	658-0234-51	HEAD (P-5544-CD)	1
55	— — —	MAIN MOTOR WIRE BLACK	1
56	— — —	MAIN MOTOR WIRE RED	1
57	658-0234-52	JOINT WIRE ASSY	1
58	658-0223-57	SCREW (M2.6x 4)	4
59	658-0223-58	SCREW (M2x 2.5)	2
60	658-0234-53	SCREW (M2x 2.5)	3
61	658-0223-60	WASHER (1.6x 3.2)	2
62	658-0223-61	WASHER (1.2x 3.2)	1
63	658-0223-62	WASHER (1.5x 3.2)	3
64	658-0234-54	PRECISE SCREN(M1.7x 3)	2
65	658-0223-64	WASHER (2.1x 4.0)	1
66	658-0223-65	E-RING	1

■TAPE MECHANISM ADJUSTMENT

Tape mechanism section 948-0618-01

Item	Procedure	Measuring instrument
Tape speed	1.Insert a wow speed tape, and adjust speed-VR of main motor so that a reading of wow flutter meter is 3000----3090Hz.	Wow speed tape Wow flutter meter

■ ELECTRICAL PARTS LIST

Main PWB section (B1)

REF No.	PART No.	DESCRIPTION
IC 201	051-1819-50	TDA7479D
IC 202	051-0350-93	NJM4558
IC 301	051-3261-00	BA4906
IC 501	051-5016-90	TDA7404
IC 601	051-2031-31	LA4763
IC 701	051-0160-01	HD74LS07
IC 801	052-1913-10	μ PD178018AGC-574-3B9
Q 101	108-0669-00	2SK669
Q 102	102-2712-50	2SC2712GR
Q 103	102-2712-50	2SC2712GR
Q 105	125-2004-02	RN1402
Q 106	103-1306-00	2SD1306
Q 201	125-2004-02	RN1402
Q 202	125-0002-02	RN2402
Q 203	125-2004-02	RN1402
Q 301	102-2712-50	2SC2712GR
Q 303	125-2004-02	RN1402
Q 304	102-2712-50	2SC2712GR
Q 305	101-1237-00	2SB1237
Q 306	125-0002-02	RN2402
Q 307	125-0002-02	RN2402
Q 308	101-1243-00	2SB1243
Q 309	125-2004-02	RN1402
Q 310	103-1858-00	2SD1858
Q 402	125-0002-02	RN2402
Q 403	125-2004-06	RN1406
Q 404	125-2004-06	RN1406
Q 405	101-1243-00	2SB1243
Q 406	103-2012-00	2SD2012
Q 501	125-4001-00	XN1504
Q 601	125-0002-01	RN2401
Q 701	125-2004-02	RN1402
Q 702	100-1162-00	2SA1162
Q 703	125-2004-02	RN1402
Q 901	100-1162-00	2SA1162
D 201	O01-0330-00	1SS119
D 202	O01-0330-00	1SS119
D 301	O01-0376-41	MTZ7.5JB
D 302	O01-0376-26	MTZ4.7JB
D 303	O01-0466-01	S5688G
D 304	O01-0466-01	S5688G
D 305	O01-0330-00	1SS119
D 306	O01-0330-00	1SS119
D 310	O01-0376-47	MTZ9.1JB
D 395	O01-0330-00	1SS119
D 397	O01-0466-01	S5688G
D 402	O01-0376-47	MTZ9.1JB
D 601	O01-0592-00	RM4Z
D 602	O01-0466-01	S5688G
D 603	O01-0466-01	S5688G
D 604	O01-0466-01	S5688G

REF No.	PART No.	DESCRIPTION
D 605	001-0466-01	S5688G
D 606	001-0466-01	S5688G
D 607	001-0466-01	S5688G
D 608	001-0466-01	S5688G
D 609	001-0466-01	S5688G
D 610	001-0516-00	MA111
D 701	001-0330-00	1SS119
D 702	001-0330-00	1SS119
D 801	001-0330-00	1SS119
D 901	001-0330-00	1SS119
L 101	010-4007-00	5.6 μ F
L 102	010-2230-14	2.2 μ F
L 103	010-2230-31	56 μ F
L 104	010-2230-38	220 μ F
L 105	010-2230-38	220 μ F
L 201	010-2230-38	220 μ F
L 601	009-9006-60	CHOKE
L 503	010-2285-57	
L 701	010-2230-26	22 μ F
L 801	010-2230-38	220 μ F
X 201	061-3013-00	4.332MHz
X 801	061-1064-00	4.5MHz
C 101	166-2201-50	50V 22PF
C 102	166-2201-50	50V 22PF
C 103	168-1032-55	50V 0.01 μ F
C 104	168-1032-55	50V 0.01 μ F
C 105	168-1022-55	50V 1000PF
C 106	183-1073-22	10V 100 μ F
C 107	168-1542-56	25V 0.15 μ F
C 108	183-1073-22	10V 100 μ F
C 109	168-1032-55	50V 0.01 μ F
C 110	168-6822-55	50V 6800PF
C 111	183-1073-22	10V 100 μ F
C 112	166-1011-50	50V 100PF
C 113	166-1011-50	50V 100PF
C 114	168-4732-78	25V 0.047 μ F
C 115	166-1011-50	50V 100PF
C 116	168-3312-55	50V 330PF
C 117	168-1022-55	50V 1000PF
C 118	182-1053-63	50V 1 μ F
C 119	182-4753-63	50V 4.7 μ F
C 120	168-1232-55	50V 0.012 μ F
C 121	168-1545-56	25V 0.15 μ F
C 122	168-3332-78	25V 0.033 μ F
C 123	168-5622-55	50V 5600PF
C 124	168-2232-55	25V 0.022 μ F
C 125	168-2232-55	25V 0.022 μ F
C 126	042-9002-04	50V 1 μ F(LN)
C 127	168-1032-55	50V 0.01 μ F
C 129	166-1011-50	50V 100PF
C 130	183-4763-32	16V 47 μ F
C 131	182-1063-33	16V 10 μ F

REF No.	PART No.	DESCRIPTION
C 132	166-1011-50	50V 100PF
C 133	166-1011-50	50V 100PF
C 134	168-1032-55	50V 0.01 μ F
C 135	166-2096-50	50V 2PF
C 198	168-1545-56	25V 0.15 μ F
C 199	168-1032-55	50V 0.01 μ F
C 201	166-8201-50	50V 82PF
C 202	166-4701-50	50V 47PF
C 203	168-3312-55	50V 330PF
C 204	183-2253-62	50V 2.2 μ F
C 205	183-1073-22	10V 100 μ F
C 206	166-5611-50	50V 560PF
C 207	168-1545-56	25V 0.15 μ F
C 208	168-8212-55	50V 820PF
C 209	168-6812-55	50V 680PF
C 210	168-2232-55	25V 0.022 μ F
C 211	166-1007-50	50V 10PF
C 212	168-2232-55	25V 0.022 μ F
C 213	168-1032-55	50V 0.01 μ F
C 214	168-1545-56	25V 0.15 μ F
C 215	168-1545-56	25V 0.15 μ F
C 226	168-1545-56	25V 0.15 μ F
C 228	168-1545-56	25V 0.15 μ F
C 230	168-1545-56	25V 0.15 μ F
C 302	172-1031-15	50V 0.01 μ F
C 303	172-1031-15	50V 0.01 μ F
C 305	183-1063-32	16V 10 μ F
C 306	168-1022-55	50V 1000PF
C 310	183-1063-32	16V 10 μ F
C 311	168-1042-78	25V 0.1 μ F
C 328	168-1032-55	50V 0.01 μ F
C 403	183-1073-22	10V 100 μ F
C 404	182-1063-53	35V 10 μ F
C 450	168-2222-55	50V 2200PF
C 451	168-2222-55	50V 2200PF
C 501	168-1042-78	25V 0.1 μ F
C 502	168-1042-78	25V 0.1 μ F
C 503	183-1053-62	50V 1 μ F
C 504	183-1053-62	50V 1 μ F
C 505	182-1053-63	50V 1 μ F
C 506	182-1053-63	50V 1 μ F
C 509	182-4763-33	16V 47 μ F
C 510	183-1063-52	35V 10 μ F
C 511	183-1063-52	35V 10 μ F
C 514	182-1063-53	35V 10 μ F
C 515	168-1032-55	50V 0.01 μ F
C 516	168-1022-55	50V 1000PF
C 517	168-1022-55	50V 1000PF
C 601	172-2231-15	50V 0.022 μ F
C 602	042-0447-00	16V 2200 μ F
C 603	183-3353-62	50V 3.3 μ F
C 604	183-2263-32	16V 22 μ F

REF No.	PART No.	DESCRIPTION
C 605	183-4763-32	16V 47 μ F
C 606	182-4746-63	50V 0.47 μ F
C 607	182-4746-63	50V 0.47 μ F
C 608	182-4746-63	50V 0.47 μ F
C 609	182-4746-63	50V 0.47 μ F
C 611	172-1041-15	50V 0.1 μ F
C 612	172-1041-15	50V 0.1 μ F
C 613	172-1041-15	50V 0.1 μ F
C 614	172-1041-15	50V 0.1 μ F
C 630	042-3334-56	63V 1 μ F
C 631	042-0426-06	63V 1 μ F
C 701	168-4732-78	25V 0.047 μ F
C 801	166-2201-50	50V 22PF
C 802	166-2201-50	50V 22PF
C 803	168-4732-78	25V 0.047 μ F
C 804	168-4732-78	25V 0.047 μ F
C 805	168-1032-55	50V 0.01 μ F
C 806	182-4763-33	16V 47 μ F
C 807	183-1073-22	10V 100 μ F
C 808	168-1032-55	50V 0.01 μ F
C 809	172-1031-15	50V 0.01 μ F
C 810	168-4732-78	25V 0.047 μ F
C 811	168-1032-55	50V 0.01 μ F
C 812	168-1032-55	50V 0.01 μ F
R 102	119-4721-10	1/16W 4.7K Ω
R 103	119-1011-10	1/16W 100 Ω
R 104	119-4721-10	1/16W 4.7K Ω
R 105	119-2221-10	1/16W 2.2K Ω
R 106	119-1021-10	1/16W 1K Ω
R 107	119-3311-10	1/16W 330 Ω
R 108	119-6821-10	1/16W 6.8K Ω
R 109	119-1021-10	1/16W 1K Ω
R 110	119-5631-10	1/16W 56K Ω
R 111	119-5631-10	1/16W 56K Ω
R 112	111-3311-91	1/4WSS 330 Ω
R 113	119-6821-10	1/16W 6.8K Ω
R 114	119-1021-10	1/16W 1K Ω
R 115	119-2221-10	1/16W 2.2K Ω
R 116	119-1021-10	1/16W 1K Ω
R 201	119-2221-10	1/16W 2.2K Ω

REF No.	PART No.	DESCRIPTION
R 202	119-3321-10	1/16W 3.3K Ω
R 203	119-3331-10	1/16W 33K Ω
R 204	119-1031-10	1/16W 10K Ω
R 205	119-1231-10	1/16W 12K Ω
R 206	119-1041-10	1/16W 100K Ω
R 207	119-2211-10	1/16W 220 Ω
R 301	119-4731-10	1/16W 47K Ω
R 302	119-2231-10	1/16W 22K Ω
R 303	119-2231-10	1/16W 22K Ω
R 304	111-2231-91	1/4WSS 22K Ω
R 305	119-2231-10	1/16W 22K Ω
R 306	119-4721-10	1/16W 4.7K Ω
R 307	119-4721-10	1/16W 4.7K Ω
R 308	111-3321-91	1/4W 3.3K Ω
R 309	119-1031-10	1/16W 10K Ω
R 310	111-1221-91	1/4W 1.2K Ω
R 311	119-1031-10	1/16W 10K Ω
R 312	119-1031-10	1/16W 10K Ω
R 313	119-4721-10	1/16W 4.7K Ω
R 314	111-4711-91	1/4W 470 Ω
R 402	119-4731-10	1/16W 47K Ω
R 403	119-4731-10	1/16W 47K Ω
R 405	119-1041-10	1/16W 100K Ω
R 406	111-4711-91	1/4W 470 Ω
R 411	111-1221-91	1/4W 1.2K Ω
R 412	119-4731-10	1/16W 47K Ω
R 413	119-1041-10	1/16W 100K Ω
R 501	119-4721-10	1/16W 4.7K Ω
R 502	119-4721-10	1/16W 4.7K Ω
R 503	119-1021-10	1/16W 1K Ω
R 504	119-1021-10	1/16W 1K Ω
R 505	119-1031-10	1/16W 10K Ω
R 506	119-1031-10	1/16W 10K Ω
R 507	119-3311-10	1/16W 330 Ω
R 508	119-3311-10	1/16W 330 Ω
R 515	111-4721-91	1/4WSS 4.7K Ω
R 516	111-4721-91	1/4WSS 4.7K Ω
R 517	111-4721-91	1/4WSS 4.7K Ω
R 518	111-4721-91	1/4WSS 4.7K Ω
R 519	111-4721-91	1/4WSS 4.7K Ω

REF No.	PART No.	DESCRIPTION
R 520	111-4721-91	1/4WSS 4.7K Ω
R 524	111-1031-91	1/4WSS 10K Ω
R 602	119-1031-10	1/16W 10K Ω
R 604	119-1231-10	1/16W 12K Ω
R 605	119-4721-10	1/16W 4.7K Ω
R 606	111-4721-91	1/4WSS 4.7K Ω
R 607	111-4721-91	1/4WSS 4.7K Ω
R 608	119-4721-10	1/16W 4.7K Ω
R 609	119-4721-10	1/16W 4.7K Ω
R 701	119-4721-10	1/16W 4.7K Ω
R 702	119-4721-10	1/16W 4.7K Ω
R 703	119-1021-10	1/16W 1K Ω
R 704	119-4721-10	1/16W 4.7K Ω
R 705	119-1021-10	1/16W 1K Ω
R 706	119-4721-10	1/16W 4.7K Ω
R 707	119-1021-10	1/16W 1K Ω
R 711	119-4731-10	1/16W 47K Ω
R 714	119-1031-10	1/16W 10K Ω
R 715	119-2231-10	1/16W 22K Ω
R 803	119-1031-10	1/16W 10K Ω
R 810	119-2231-10	1/16W 22K Ω
R 812	119-2221-10	1/16W 2.2K Ω
R 813	119-2221-10	1/16W 2.2K Ω
R 818	111-4731-91	1/4WSS 47K Ω
R 819	119-1041-10	1/16W 100K Ω
R 820	119-1041-10	1/16W 100K Ω
R 823	119-1031-10	1/16W 10K Ω
R 824	119-1031-10	1/16W 10K Ω
R 830	119-1031-10	1/16W 10K Ω
R 831	119-4731-10	1/16W 47K Ω
R 832	119-4731-10	1/16W 47K Ω
R 901	119-1031-10	1/16W 10K Ω
R 902	119-4721-10	1/16W 4.7K Ω
R 903	119-4731-10	1/16W 47K Ω
SUP101	060-0122-91	DSP-141N
VR 101	012-4738-13	470K Ω
CN 101	074-1217-00	OUTLET SOCKET
CN 105	074-1126-10	OUTLET SOCKET
CN 106	074-1186-22	OUTLET SOCKET
SW 301	013-6100-00	SKHILLB(RESET)

Switch PWB section (B2)

REF No.	PART No.	DESCRIPTION
IC 101	051-6013-00	LC75854W
Q 101	100-1162-00	2SA1162
D 101	001-0529-29	MA8051M
D 102	001-0529-14	MA8030L
D 103	001-0529-41	MA8075M
D 104	001-7046-00	NSPW310BS (PE-1714E-H)
D 104	001-7030-00	NSPW310A (PE-1714E-I)
C 101	168-4732-78	25V 0.047 μ F
C 102	168-4732-78	25V 0.047 μ F
C 103	168-1022-78	50V 1000PF
C 104	042-0416-51	6.3V 10 μ F
C 105	042-0416-51	6.3V 10 μ F
R 101	119-2221-10	1/16W 2.2K Ω
R 102	119-2221-10	1/16W 2.2K Ω
R 103	119-2221-10	1/16W 2.2K Ω
R 104	119-4731-10	1/16W 47K Ω
R 105	119-1031-10	1/16W 10K Ω

REF No.	PART No.	DESCRIPTION
R 106	119-3311-10	1/16W 330 Ω
R 107	119-3921-10	1/16W 3.9K Ω
R 108	119-1241-10	1/16W 120K Ω
R 109	119-1011-10	1/16W 100 Ω
R 110	119-1011-10	1/16W 100 Ω
R 111	119-2731-10	1/16W 27K Ω
R 112	032-0092-80	1/10W 330 Ω 1%
R 113	032-0092-80	1/10W 330 Ω 1%
R 114	119-1021-10	1/16W 1K Ω
R 115	119-1011-10	1/16W 100 Ω
CN 107	076-0615-00	PLUG
PL 101	017-0444-00	14V 50mA
PL 102	017-0444-00	14V 50mA
PL 103	017-0444-00	14V 50mA
PL 104	017-0444-00	14V 50mA
PL 105	017-0444-00	14V 50mA
S 101	013-6001-50	SKQCAB
S 102	013-6305-00	SKQMAH
S 103	013-6305-00	SKQMAH

REF No.	PART No.	DESCRIPTION
S 104	013-6305-00	SKQMAH
S 105	013-6001-50	SKQCAB
S 106	013-6001-50	SKQCAB
S 107	013-6305-00	SKQMAH
S 108	013-6305-00	SKQMAH
S 109	013-6001-50	SKQCAB
S 110	013-6001-50	SKQCAB
S 111	013-6305-00	SKQMAH
S 112	013-6001-50	SKQCAB
S 113	013-6305-00	SKQMAH
S 114	013-6001-50	SKQCAB
S 115	013-6305-00	SKQMAH
S 116	013-6305-00	SKQMAH
S 117	013-6305-00	SKQMAH
S 118	016-9900-81	SIM-026MT
S 119	013-6001-50	SKQCAB
S 120	013-6305-00	SKQMAH
IR 101	060-4008-00	RS-171

ISO PWB section (B3)

REF No.	PART No.	DESCRIPTION
CN 102	074-1285-00	OUTLET SOCKET

REF No.	PART No.	DESCRIPTION
FUSE	060-0057-57	15A

MECHA PWB section (B4)

REF No.	PART No.	DESCRIPTION
IC 1	051-6048-08	BA6219BFP
IC 2	051-1546-90	BA3430FS
Q 1	102-2412-00	2SC2412K
D 1	001-0529-25	MA8047L
C 1	178-1042-78	25V 0.1 μ F
C 2	178-2242-78	25V 0.22 μ F
C 3	183-4763-32	16V 47 μ F
C 4	176-3311-00	50V 330PF
C 5	176-3311-00	50V 330PF
C 6	176-3311-00	50V 330PF
C 7	176-3311-00	50V 330PF
C 8	183-6863-22	10V 68 μ F
C 9	183-6863-22	10V 68 μ F
C 10	172-1231-10	50V 0.012 μ F
C 11	172-1231-10	50V 0.012 μ F
C 12	183-4763-32	16V 47 μ F
C 13	183-4753-52	35V 4.7 μ F
C 14	183-4753-52	35V 4.7 μ F
C 15	176-5611-00	50V 560PF

REF No.	PART No.	DESCRIPTION
C 16	183-1043-62	50V 0.1 μ F
C 17	183-4753-52	35V 4.7 μ F
C 18	183-4743-62	50V 0.47 μ F
C 19	183-2263-32	16V 22 μ F
C 20	178-1042-78	25V 0.1 μ F
C 21	178-1042-78	25V 0.1 μ F
C 22	178-2242-78	25V 0.22 μ F
C 23	178-2242-78	25V 0.22 μ F
R 1	117-2221-10	1/10W 2.2KΩ
R 10	117-1241-10	1/10W 120KΩ
R 11	117-1241-10	1/10W 120KΩ
R 12	117-1241-10	1/10W 120KΩ
R 13	117-1011-10	1/10W 100Ω
R 14	117-1011-10	1/10W 100Ω
R 15	117-3341-10	1/10W 330KΩ
R 16	117-3341-10	1/10W 330KΩ
R 17	117-1131-10	1/10W 11KΩ
R 18	117-1131-10	1/10W 11KΩ
R 19	117-1531-10	1/10W 15KΩ

REF No.	PART No.	DESCRIPTION
R 2	117-2231-10	1/10W 22KΩ
R 20	117-1531-10	1/10W 15KΩ
R 21	117-1031-10	1/10W 10KΩ
R 22	117-1031-10	1/10W 10KΩ
R 23	117-8211-10	1/10W 820Ω
R 24	117-1811-10	1/10W 180Ω
R 25	117-2231-10	1/10W 22KΩ
R 26	117-3391-10	1/10W 3.3Ω
R 27	117-3301-10	1/10W 33Ω
R 3	117-2231-10	1/10W 22KΩ
R 4	117-6831-10	1/10W 68KΩ
R 5	117-5631-10	1/10W 56KΩ
R 6	117-3311-10	1/10W 330Ω
R 7	117-2221-10	1/10W 2.2KΩ
R 8	114-1001-21	2WSS 10Ω
R 9	117-1241-10	1/10W 120KΩ
CN 1	074-0986-11	OUTLET SOCKET
CN 2	076-0351-06	PLUG

REEL PWB section (B5)

REF No.	PART No.	DESCRIPTION
Q 1	658-0234-49	ON2170-QR-FS
S 1	658-0234-47	MPU1170MLB0

REF No.	PART No.	DESCRIPTION
S 2	658-0234-50	MPU12370MLB0
S 3	658-0234-46	ESE22MH32

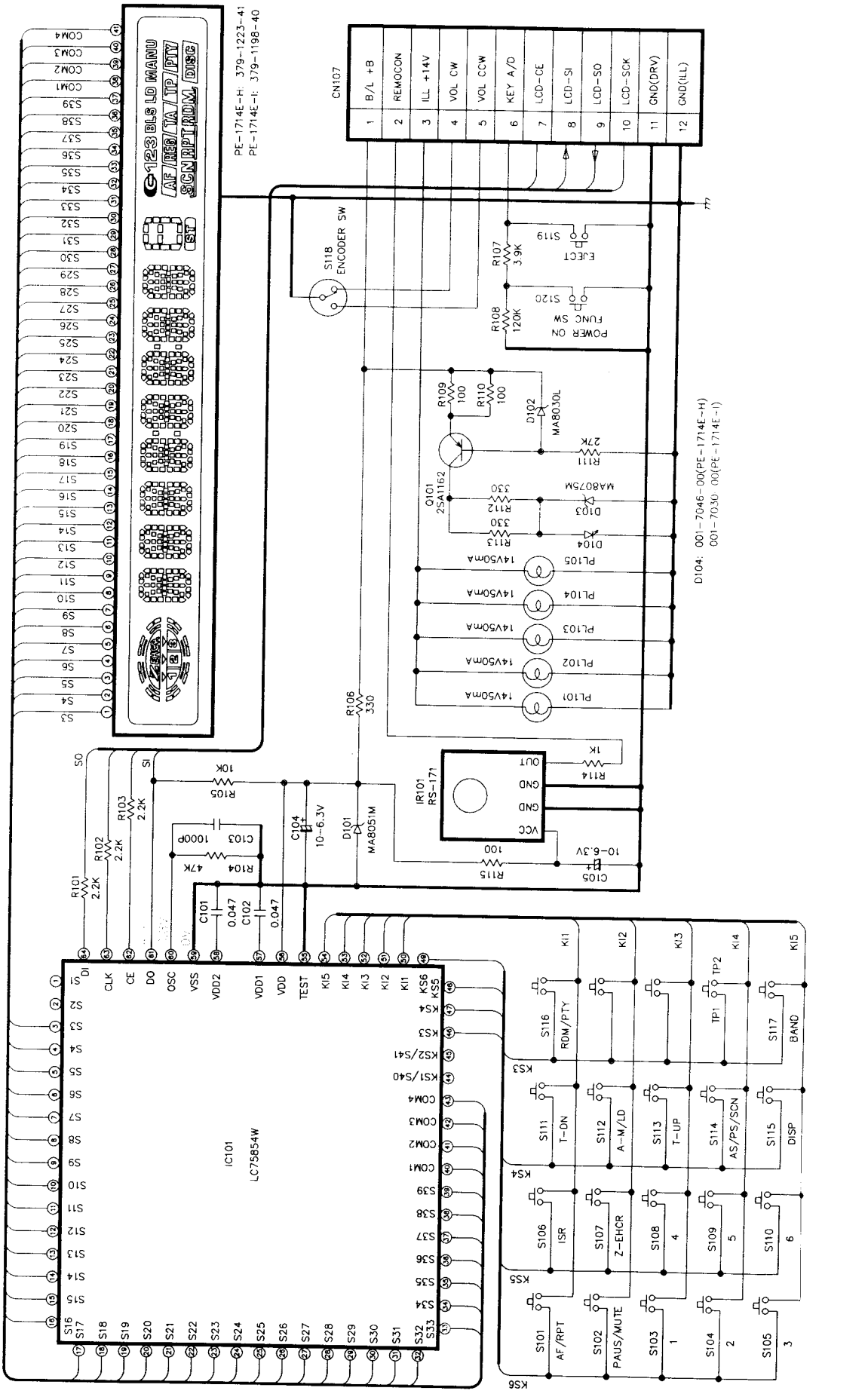
REF No.	PART No.	DESCRIPTION
S 4	658-0234-47	MPU1170MLB0

HEAD PWB section (B6)

REF No.	PART No.	DESCRIPTION
J 1	658-0234-52	JOINT WIRE ASSY 6P

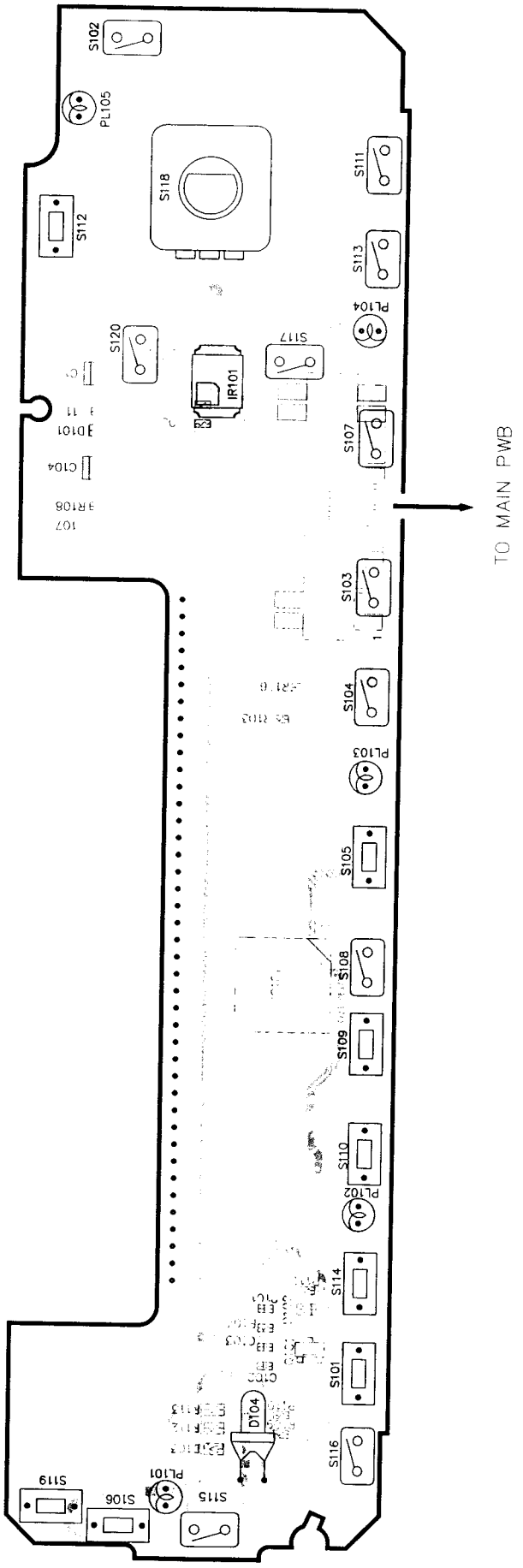
■ CIRCUIT DIAGRAM:

Switch PWB (B2) section

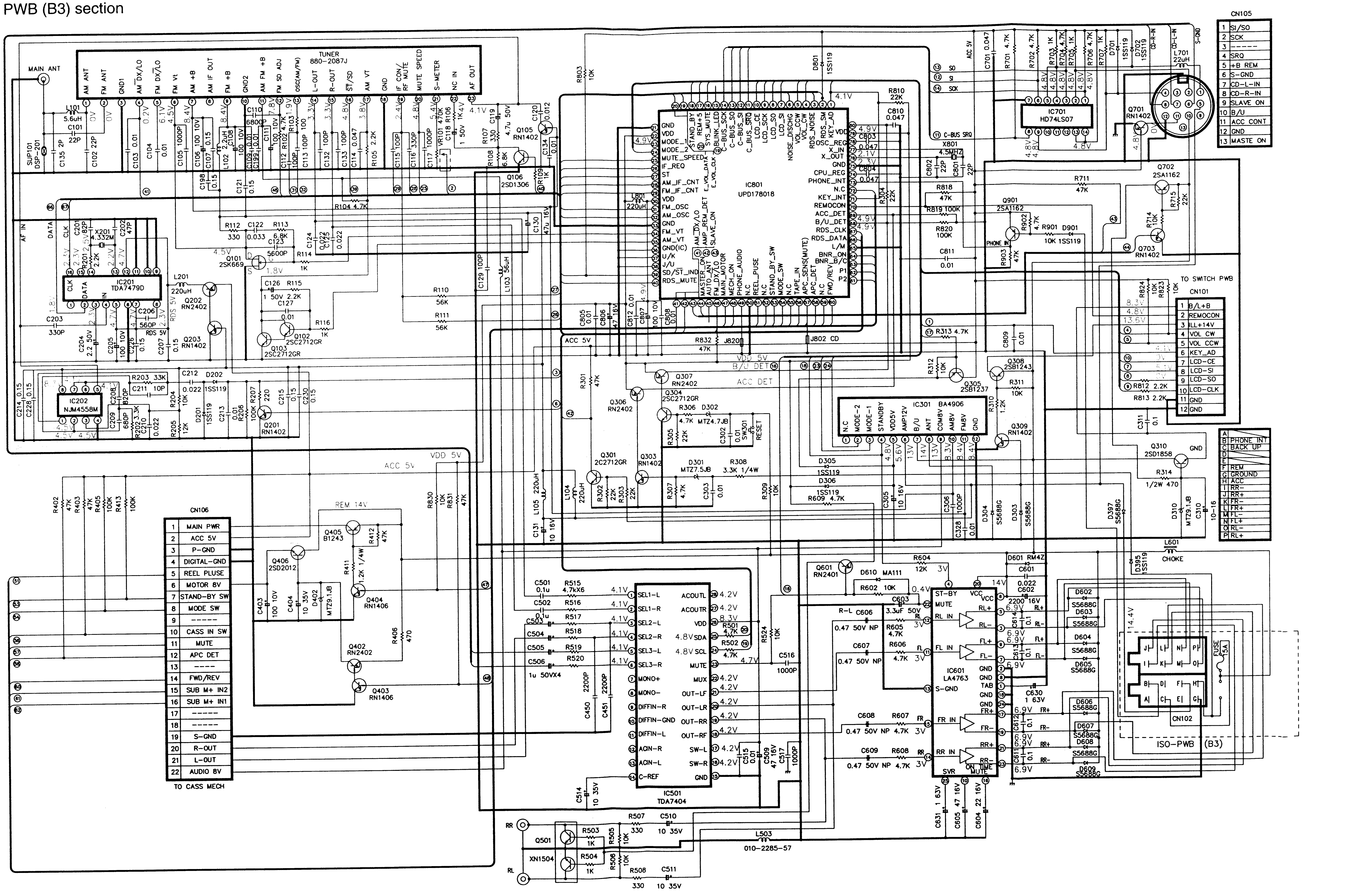


■ PRINTED WIRING BOARD:

Switch PWB (B2) section

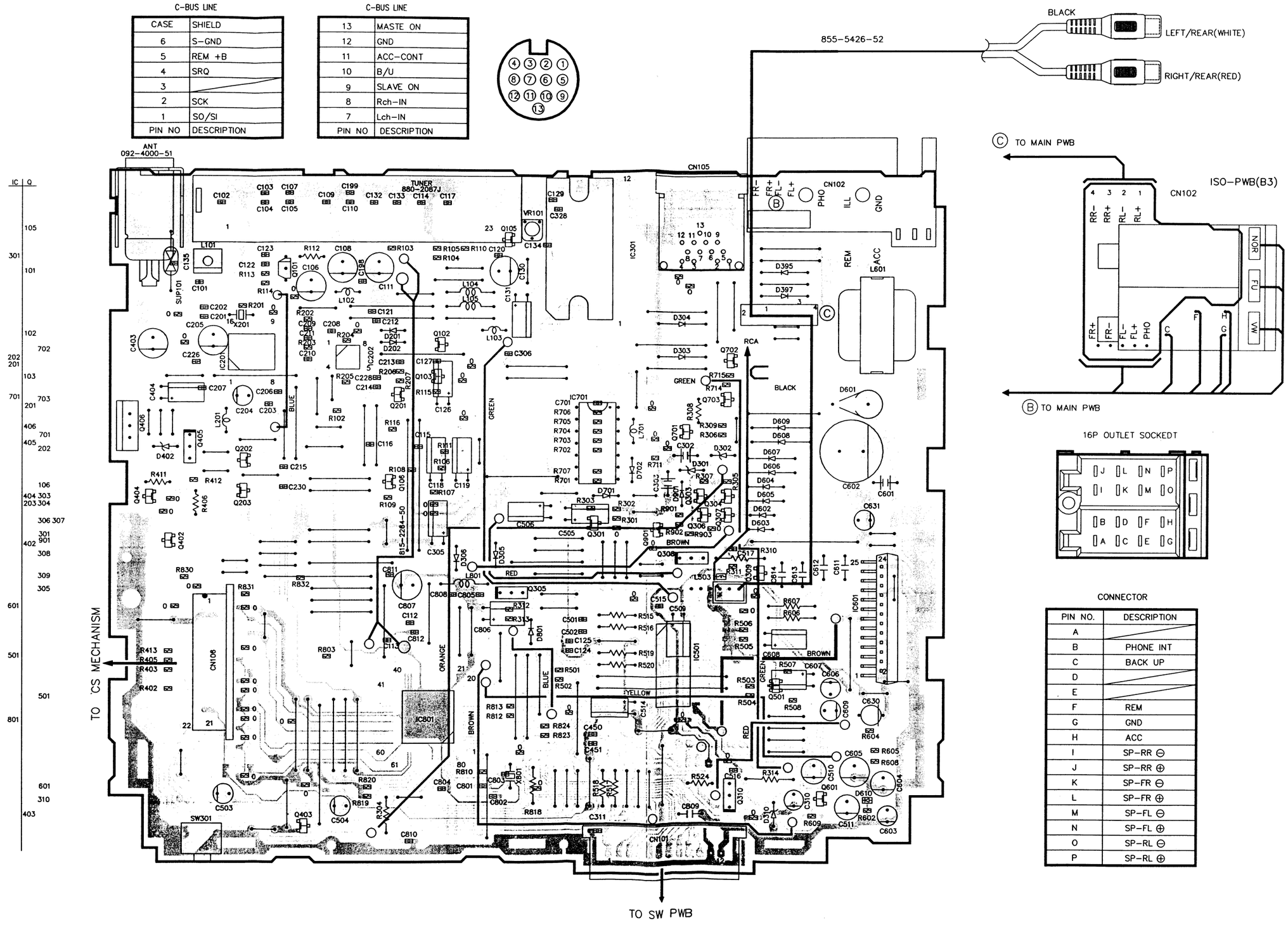


■ CIRCUIT DIAGRAM:
Main PWB (B1) section
ISO PWB (B3) section



MAIN ANT
TUNER
880-2087J
IC201
TDA7479D
IC202
NJM4558M
IC801
UPD178018
IC701
HD74LS07
IC301 BA4906
IC501
TDA7404
IC601
LA4763
CN105
1 SI/SO
2 SCK
3 -----
4 SRQ
5 +B REM
6 S-GND
7 CD-L-IN
8 CD-R-IN
9 SLAVE ON
10 B/U
11 ACC CONT
12 GND
13 MASTE ON
TO SWITCH PWB
CN101
1 B/L+B
2 REMOCON
3 ILL+14V
4 VOL CW
5 VOL CCW
6 KEY_AD
7 LCD-CE
8 LCD-SI
9 LCD-SO
10 LCD-CLK
11 GND
12 GND
CN106
1 MAIN PWR
2 ACC 5V
3 P-GND
4 DIGITAL-GND
5 REEL PLUSE
6 MOTOR 8V
7 STAND-BY SW
8 MODE SW
9 -----
10 CASS IN SW
11 MUTE
12 APC DET
13 ----
14 FWD/REV
15 SUB M+ IN2
16 SUB M+ IN1
17 -----
18 -----
19 S-GND
20 R-OUT
21 L-OUT
22 AUDIO 8V
TO CASS MECH
A
B PHONE INT
C BACK UP
D
E
F REM
G GROUND
H ACC
I RR-
J RR+
K FR-
L FR+
M FL-
N FL+
O RL-
P RL+
CN102
ISO-PWB (B3)
FUSE 15A
L601 CHOKE
L503 010-2285-57
Q501 XN1504
RR
RL
ACC 5V
VDD 5V
REM 14V
B/U DET
ACC DET
J802 CD

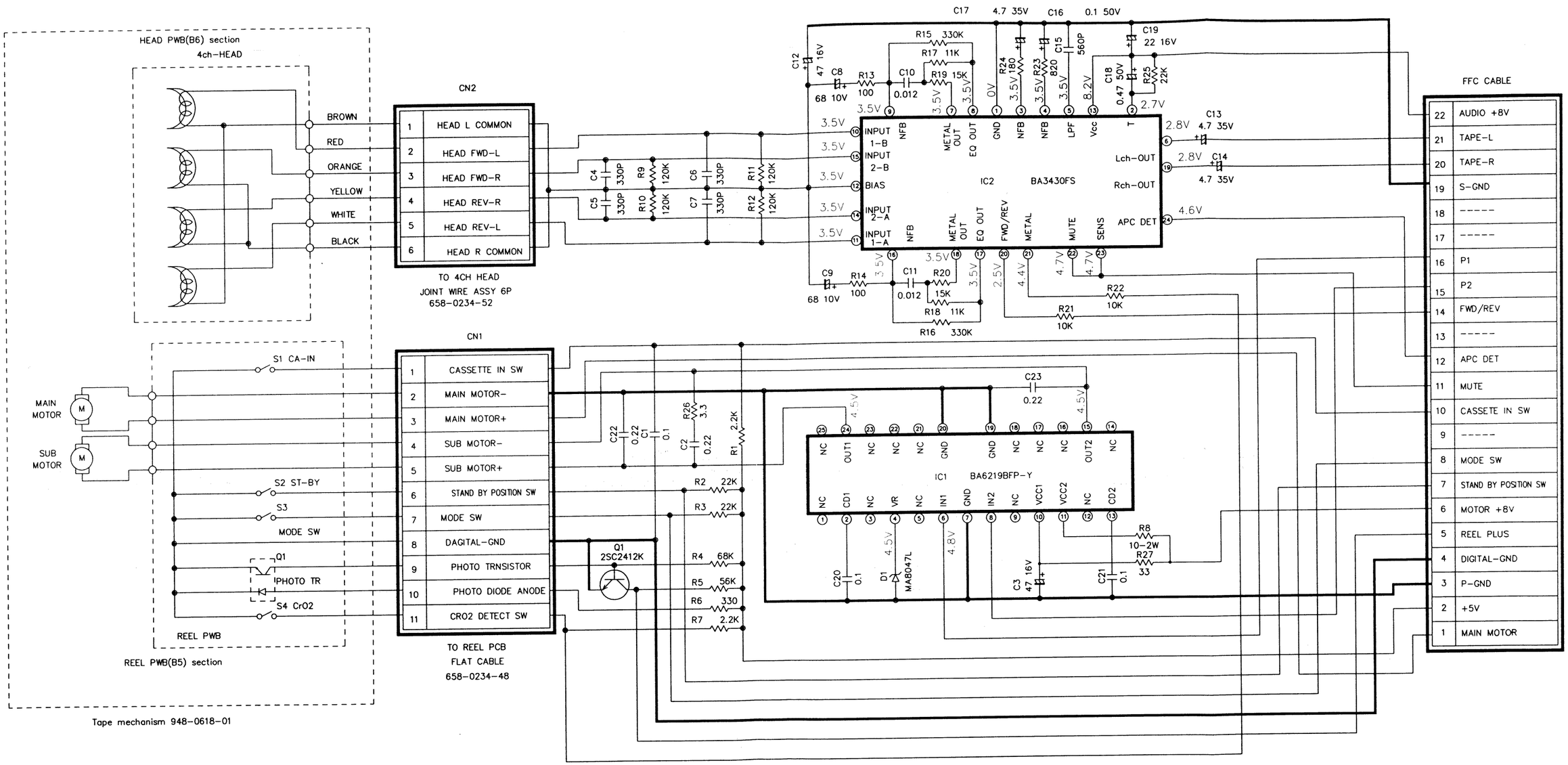
■ PRINTED WIRING BOARD:
Main PWB (B1) section
ISO PWB (B3) section



CONNECTOR

PIN NO.	DESCRIPTION
A	
B	PHONE INT
C	BACK UP
D	
E	
F	REM
G	GND
H	ACC
I	SP-RR ⊖
J	SP-RR ⊕
K	SP-FR ⊖
L	SP-FR ⊕
M	SP-FL ⊖
N	SP-FL ⊕
O	SP-RL ⊖
P	SP-RL ⊕

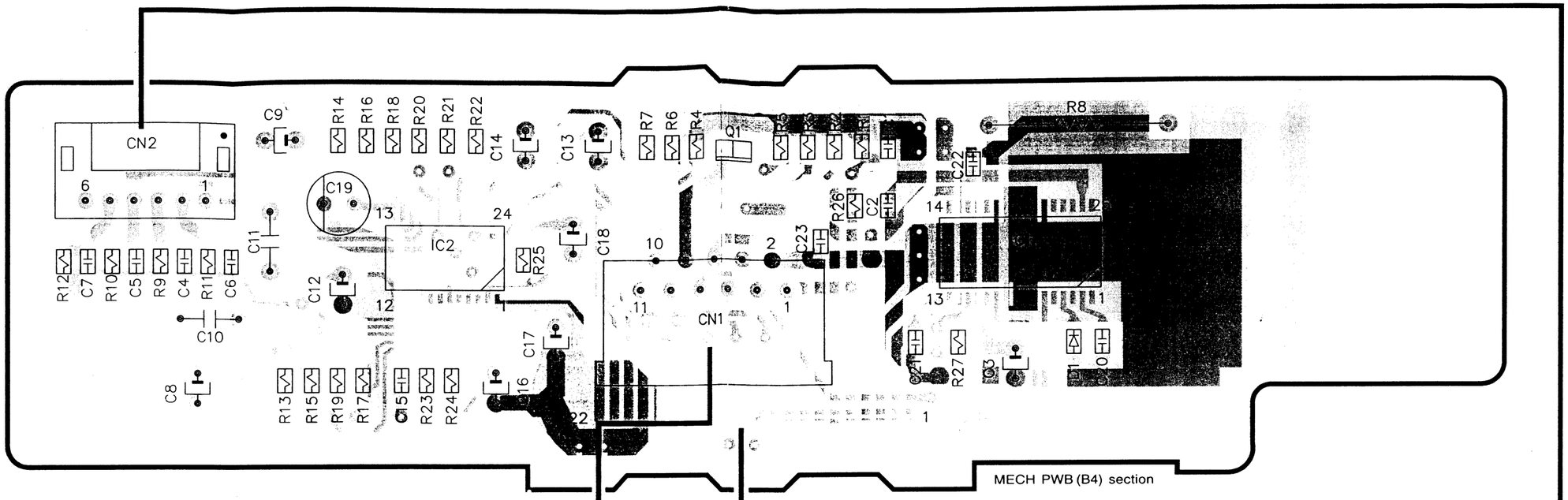
■ CIRCUIT DIAGRAM:
MECH PWB (B4) section



MECH PWB (B4) section

■ PRINTED WIRING BOARD:

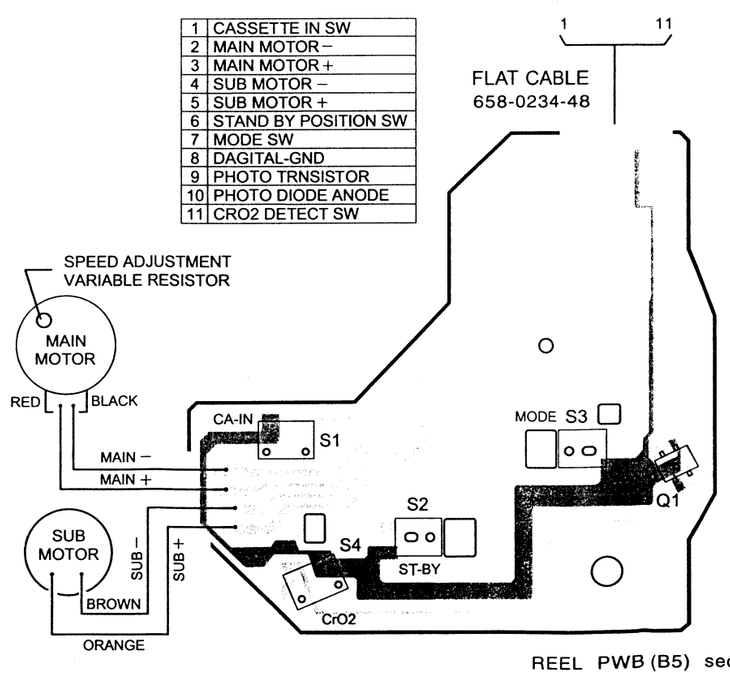
MECH PWB (B4) section



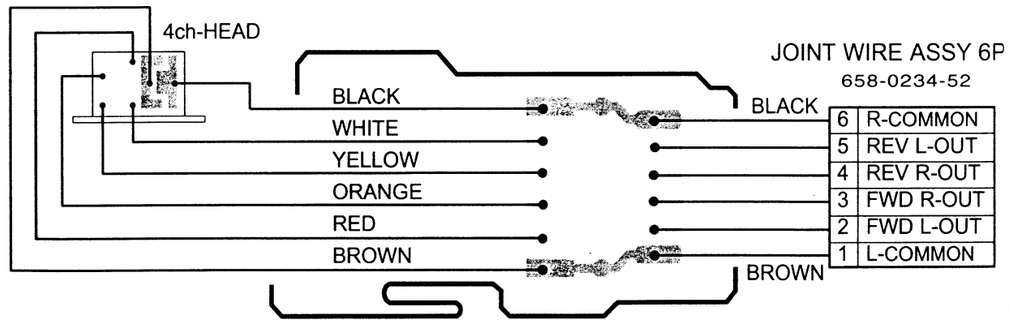
TO MAIN PWB

Tape mechanism 948-0618-01

1	CASSETTE IN SW
2	MAIN MOTOR –
3	MAIN MOTOR +
4	SUB MOTOR –
5	SUB MOTOR +
6	STAND BY POSITION SW
7	MODE SW
8	DAGITAL-GND
9	PHOTO TRNSISTOR
10	PHOTO DIODE ANODE
11	CRO2 DETECT SW



REEL PWB (B5) section



HEAD PWB (B6) section